



ELSEVIER



FOR IMMEDIATE RELEASE

Contact: Brittany Morstatter

ARPAS@assochq.org

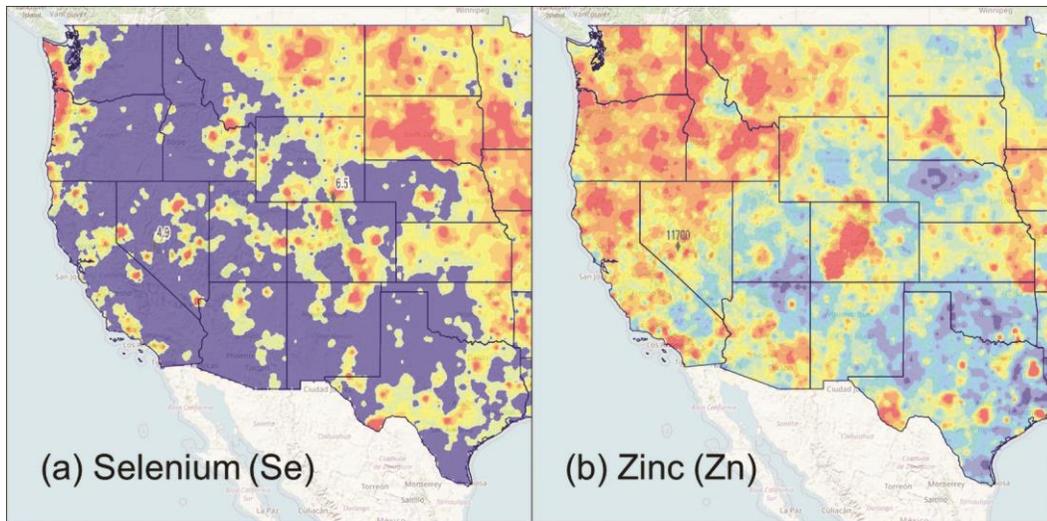
Mineral supplementation of sheep grazing extensive rangelands

Considerations when supplementing sheep grazing marginal rangelands are discussed in a new invited review in *Applied Animal Science*

Champaign, IL, June 1, 2021—Land that is not suitable for crop farming or use as improved grazing land for larger livestock can be used for extensive sheep production. A key management strategy to optimize sheep productivity in such situations is implementing appropriate trace mineral supplementation. Precision mineral supplementation requires understanding the complexities of a grazing system ranging from soil geochemistry to contemporary levels of production across diverse sheep breeds. These variables are thoroughly explored by scientists from the University of Wyoming and the USDA in a new [invited review](#) in [Applied Animal Science](#).

The authors of the article begin by discussing the complexities that are involved in a mineral assessment of a piece of rangeland. They show that the mineral relationships among soil, vegetation, and water are multifaceted and critical, and that the quantity of minerals available to sheep is influenced by climate, plant species and maturity, availability, and palatability, among other factors. To their advantage, sheep are capable of eating selectively to increase the mineral content in their diet. “This ability to selectively consume is especially important during the fall and winter periods when digestibility and mineral content of other forage species is decreasing and animal mineral requirements are increasing in preparation for breeding and gestation,” said lead author Whit C. Stewart, PhD, Department of Animal Science, University of Wyoming, Laramie, WY, USA. He went on to say, “Two important goals of any free-choice mineral-supplementation program should include (1) providing compensatory amounts and types of minerals to effectively offset minerals lacking in the plant community available (and preferred) for grazing and (2) remedying these deficiencies, by achieving targeted intake of a supplement across the management cohort.”

In addition to the availability, the mineral requirements of the sheep should be calculated. This review covers variations in requirements according to physiological state, age, and breed. “Prioritizing supplementation efforts for time points when physiological demands are greatest (e.g., breeding, gestation, and lactation) will have a greater return on investment than an arbitrary year-round approach,” said Stewart.



Caption: Spatial patterns of soil microminerals for (a) selenium and (b) zinc in the western and central United States. Purple or cooler colors indicate lower and red or hotter colors indicate greater mineral content. Yellow indicates moderate mineral content. (Credit: adapted from USGS data by W. C. Stewart, J. D. Scasta, J. B. Taylor, T. W. Murphy, and A. A. M. Julian)

With so many variables, there is much room for future research in this area. David K. Beede, PhD, editor in chief of *Applied Animal Science*, said, “Experimental approaches to study in these extensive systems to help close knowledge gaps about mineral nutrition are addressed in the review. Further study will aid producers in optimizing production of sheep grazing extensive rangelands.”

The article appears in the June issue of *Applied Animal Science*.

#

Notes for Editors

“Invited Review: Mineral nutrition considerations for extensive sheep production systems” by W. C. Stewart, J. D. Scasta, J. B. Taylor, T. W. Murphy, and A. A. M. Julian (DOI: <https://doi.org/10.15232/aas.2021-02143>), *Applied Animal Science*, Volume 37, Issue 3 (June 2021), published by Fass Inc. and Elsevier Inc.

This article will be openly available at <https://doi.org/10.15232/aas.2021-02143>.

Full text of the article is available to credentialed journalists upon request; contact Brittany Morstatter at +1-217-356-3182 ext. 143 or arpas@assoqh.org to obtain copies. To schedule an interview with the authors, please contact Dr. Whit C. Stewart at Whit.Stewart@uwyo.edu.

About *Applied Animal Science*

Applied Animal Science (AAS) is a peer-reviewed scientific journal and the official publication of the American Registry of Professional Animal Scientists (ARPAS). In continuous publication since 1985, AAS is a leading outlet for animal science research. The journal welcomes novel manuscripts on applied technology, reviews on the use or application of research-based information on animal agriculture, commentaries on contemporary issues, short communications, and technical notes. Topics that will be considered for publication include (but are not limited to) feed science, farm animal management and production, dairy science, meat science, animal nutrition, reproduction, animal physiology and behavior,

disease control and prevention, microbiology, agricultural economics, and environmental issues related to agriculture. Themed special issues also will be considered for publication. www.appliedanimalscience.org

About the American Registry of Professional Animal Scientists (ARPAS)

The American Registry of Professional Animal Scientists (ARPAS) is the organization that provides certification of animal scientists through examination, continuing education, and commitment to a code of ethics. Continual improvement of individual members is catalyzed through publications (including the AAS journal) and by providing information on educational opportunities. ARPAS is affiliated with five professional societies: American Dairy Science Association, American Meat Science Association, American Society of Animal Science, Equine Science Society, and Poultry Science Association. www.arpas.org

About Fass Inc.

Since 1998, Fass has provided shared management services to not-for-profit scientific organizations. With combined membership rosters of more than 10,000 professionals in animal agriculture and other sciences, Fass offers clients services in accounting, membership management, convention and meeting planning, information technology, and scientific publication support. The Fass publications department provides journal management, peer-review support, copyediting, and composition for this journal; the staff includes five BELS-certified (www.bels.org) technical editors and experienced composition staff. www.fass.org

About Elsevier

As a global leader in information and analytics, [Elsevier](#) helps researchers and healthcare professionals advance science and improve health outcomes for the benefit of society. We do this by facilitating insights and critical decision-making for customers across the global research and health ecosystems.

In everything we publish, we uphold the highest standards of quality and integrity. We bring that same rigor to our information analytics solutions for researchers, health professionals, institutions and funders.

Elsevier employs 8,100 people worldwide. We have supported the work of our research and health partners for more than 140 years. Growing from our roots in publishing, we offer knowledge and valuable analytics that help our users make breakthroughs and drive societal progress. Digital solutions such as [ScienceDirect](#), [Scopus](#), [SciVal](#), [ClinicalKey](#) and [Sherpath](#) support strategic [research management](#), [R&D performance](#), [clinical decision support](#), and [health education](#). Researchers and healthcare professionals rely on our 2,500+ digitized journals, including [The Lancet](#) and [Cell](#); our 40,000 eBook titles; and our iconic reference works, such as *Gray's Anatomy*. With the [Elsevier Foundation](#) and our external [Inclusion & Diversity Advisory Board](#), we work in partnership with diverse stakeholders to advance [inclusion and diversity](#) in science, research and healthcare in developing countries and around the world.

Elsevier is part of [RELX](#), a global provider of information-based analytics and decision tools for professional and business customers. www.elsevier.com